

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
19 February 2004 (19.02.2004)

PCT

(10) International Publication Number
WO 2004/016052 A1

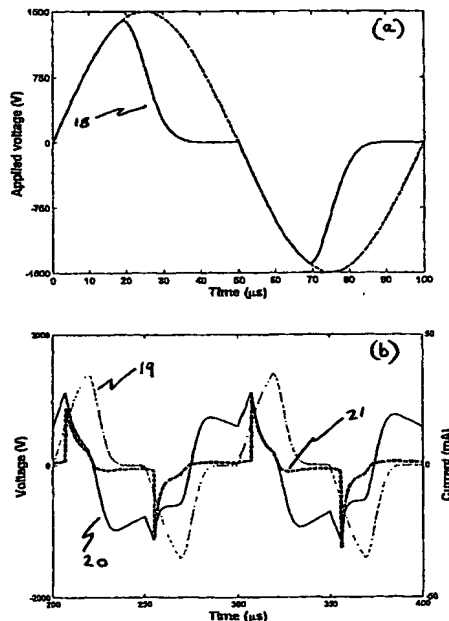
- (51) International Patent Classification⁷: **H05H 1/46**, H01J 37/32
- (21) International Application Number: PCT/GB2003/003485
- (22) International Filing Date: 7 August 2003 (07.08.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0218299.6 7 August 2002 (07.08.2002) GB
- (71) Applicant (for all designated States except US): **LOUGHBOROUGH UNIVERSITY ENTERPRISES LTD** [GB/GB]; Rutland Hall, Loughborough University, Loughborough, Leicestershire LE11 3TU (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **KONG, Michael**, Gangyu [GB/GB]; Department of Electronic and Electrical, Engineering, Loughborough University, Leicestershire LE11 3TU (GB). **DENG, Xutao** [CN/GB]; Department of Electronic and Electrical, Engineering, Loughborough University, Leicestershire LE11 3TU (GB).
- (74) Agent: **I.P.21 LIMITED**; Norwich Research Park, Colney, Norwich NR4 7UT (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES,

[Continued on next page]

(54) Title: GENERATION OF DIFFUSE NON-THERMAL ATMOSPHERIC PLASMAS



(57) Abstract: A method of generating non-thermal atmospheric gas plasmas using an applied voltage with specially-shaped waveforms. The waveforms are shaped to avoid energy wastage by attenuating the voltage in the period after current discharge has occurred. A control system may also be used to shape the applied voltage waveform in response to the gas discharge current.

WO 2004/016052 A1